## I. AMENDMENTS

**AMENDMENTS TO THE CLAIMS**

Cancel claim 10 without prejudice to renewal.

Please enter the amendments to claims 1-5, 7, 8, 11, 15, 17, and 19, as shown below.

Please enter new claims 21-29, as shown below.

1. (**Currently Amended**) A calorimetric device comprising

a) a U-shaped ~~reaction vessel~~ calorimeter tube having an inlet end and an outlet end, and mounted onto a support at ~~or near~~ the inlet end and the outlet end; and

b) a sensor.

2. (**Currently Amended**) The device of claim 1, wherein the sensor detects temperature input into the ~~reaction vessel~~ calorimeter tube and/or temperature output from the ~~vessel~~ calorimeter tube required to maintain the ~~reaction vessel~~ calorimeter tube at a substantially constant temperature.

3. (**Currently Amended**) The device of claim 1, further comprising a coating layer on the ~~reaction vessel~~ calorimeter tube, wherein the coating layer provides for mechanical bending of the ~~reaction vessel~~ calorimeter tube in response to a temperature change within the ~~reaction vessel~~ calorimeter tube.

4. (**Currently Amended**) The device of claim 1, further comprising a coating layer on the ~~reaction vessel~~ calorimeter tube, wherein the coating layer provides a means of detecting a change in electrical properties of the coating layer in response to a temperature change within the ~~reaction vessel~~ calorimeter tube.

5. (**Currently Amended**) The device of claim 1, further comprising a reflector mounted onto the ~~reaction vessel~~ calorimeter tube.

6. (Original) The device of claim 1, wherein the device detects temperature changes in the range of from about 1 pJ to about 1000 pJ.

7. (**Currently Amended**) The device of claim 1, wherein the ~~reaction vessel~~ calorimeter tube has a total volume capacity in a range of from about 1 μl to about 1 ml.

8. (**Currently Amended**) The device of claim 1, wherein the ~~reaction vessel~~ calorimeter tube comprises a sensor layer that detects a temperature change in the ~~vessel~~ calorimeter tube.

9. (Original) The device of claim 8, wherein the sensor layer is selected from a thermistor, a piezoelectric material, and a piezoresistive material.

10. (Canceled)

11. (**Currently Amended**) The device of claim 10, wherein the ~~reaction vessel~~ calorimeter tube is enclosed in a vacuum.

12. (Original) An array comprising a plurality of the device of claim 1.

13. (Original) The array of claim 12, further comprising a data storage means.

14. (Original) The array of claim 12, further comprising a data analysis means.

15. (**Currently Amended**) A method of detecting a temperature change that occurs in a process, the method comprising

introducing a sample comprising a chemical reactant, a biological entity, or a macromolecule into the device of claim 1; and

detecting a temperature change in the ~~reaction vessel~~ calorimeter tube.

16. (Original) The method of claim 15, wherein the process is selected from a chemical reaction, a biochemical reaction, a binding reaction, a physical process, a light-induced process, and a biological reaction.

17. (**Currently Amended**) The method of claim 15, wherein the device comprises a reflector mounted on the ~~reaction vessel~~ calorimeter tube, and wherein said detecting comprises detecting a light beam reflected from the reflector.

18. (Original) The method of claim 17, wherein the detecting is by a charged coupled device.

19. (**Currently Amended**) The method of claim 15, wherein said detecting comprises detecting bending of the ~~reaction vessel~~ calorimeter tube.

20. (Original) The method of claim 19, wherein said detecting is by a capacitor.

21. (**New**) A calorimetric device comprising

a) a U-shaped reaction vessel having an inlet and an outlet, and mounted onto a support at or near the inlet and the outlet; and

b) a sensor, wherein the sensor detects temperature input into the reaction vessel and/or temperature output from the vessel required to maintain the reaction vessel at a substantially constant temperature.

22. (**New**) The calorimetric device of claim 21, further comprising:

c) an integrated heating device used to heat the reaction vessel and maintain the substantially constant temperature.

23. (**New**) The calorimetric device of claim 22, wherein the integrated heating device also functions as a temperature sensing element and/or a thermo-mechanical transducer.

24. (**New**) The calorimetric device of claim 21, wherein the reaction vessel is heated by application of an electrical current through a coating layer on the reaction vessel.

25. (**New**) The calorimetric device of claim 24, wherein the electrical current applied through the coating layer is changed to maintain a constant deflection of the reaction vessel.

26. (**New**) The calorimetric device of claim 24, wherein the electrical current applied through the coating layer is changed to maintain a constant thermistor resistance.

27. (**New**) A calorimetric device comprising

a) a U-shaped reaction vessel having an inlet and an outlet, and mounted onto a support at or near the inlet and the outlet; and

b) a sensor, wherein the reaction vessel has a total volume capacity in a range of from about 1 μl to about 1 ml.

28. (**New**) The device of claim 27, further comprising a coating layer on the reaction vessel, wherein the coating layer provides for mechanical bending of the reaction vessel in response to a temperature change within the reaction vessel.

29. (**New**) The device of claim 27, further comprising a coating layer on the reaction vessel, wherein the coating layer provides a means of detecting a change in electrical properties of the coating layer in response to a temperature change within the reaction vessel.